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EXAMINER	
PATEL, DHAIRYA A	

ART UNIT	PAPER NUMBER
2151	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/995,056	CRUICKSHANK ET AL.	
	Examiner	Art Unit	
	Dhairya A. Patel	2151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 February 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-7,9-20,22,23,33-35,37-39,41-52,54,55 and 67-85* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *67-85* is/are allowed.

6)☒ Claim(s) *1-3,5-7,9-20,22,23,33-35,37-39,41-52,54 and 55* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to communication filed on 2/21/2006.

2. Claims 4,8,21,24-32,36,40,53 and 56-66 are cancelled. Claims 67-85 are newly added claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-3,5-7,15-20,22,33-35,37-39,47-52,54 are rejected under 35 U.S.C. 102(e) as being unpatentable by Foulger et al. U.S. Patent Publication # 2003/0018769 (hereinafter Foulger).

As per claim 1, Foulger teaches a computer program product comprising computer-executable instructions for causing a computer to:

-obtain performance data related to performance of a broadband network (Paragraph 22)(Paragraph 40) and

-provide hierarchical display of network performance (Fig. 3 element "network summary") the hierarchical display including a first level with first data indicative of network operation (Fig. 3 element "network summary")(Paragraph 62)(Paragraph 63) and a second level with second data indicative of a plurality of issues (Fig. 3 element 120 "route performance") comprising the first level of network performance (Paragraph 65);

-wherein the second level includes multiple issues that contain a third level with third data indicative of network issues (Fig. 3 element "Link performance") comprising at least some of the secondary level issues (Paragraph 65)(Paragraph 66)

-provide at least one of an indication of a likely network problem and a suggested action for addressing the likely network problem (Paragraph 97)(Paragraph 98).

The reference teaches having loss of client connection (indication of likely network problem) and storing the traffic data from last ten minutes and continuously refreshed (suggested action for addressing the network problem).

As per claim 2, Foulger teaches the computer program product of claim 1, wherein the first data are indicative of overall performance of one of the network, and a selected portion of the network (Fig. 3 element "network summary")(Paragraph 62)(Paragraph 63).

As per claim 3, Foulger teaches the computer program product of claim 2 wherein the first data are indicative of overall performance of the network and the issues at the second level include at least one of connectivity and traffic (Paragraph 65).

As per claim 5, Foulger teaches the computer program product of claim 1, further comprising instructions for causing the computer to provide at least one of location of network elements associated with the selected level (column 27 lines 6-31) and metrics corresponding to the network elements and associated with at least one issue comprising the selected level (Paragraph 68)(Fig. 9)(Fig. 11)

As per claim 6, Foulger teaches the computer program product of claim 5, further comprising instructions for causing the computer to provide a selected portion of the at least one of locations location of network elements associated with the selected level, and metrics corresponding to the network elements and associated with at least one issue comprising the selected level, provided of issues comprising a selected level (Paragraph 68) (Fig. 9)(Fig. 11).

As per claim 7, Foulger teaches the computer program product of claim 5, further comprising instructions for causing the computer to sort at least one of locations location of network elements associated with the selected level, and metrics corresponding to the network elements and associated with at least one issue comprising the selected level according to at least one selected criterion (Paragraph 78) (Fig. 9)(Fig. 11).

As per claim 15, Foulger teaches the computer program product of claim 1, wherein the hierarchical display is independent of an amount of network elements contributing to the indicia of network performance (Fig. 3,4,5)(Paragraph 62).

The reference teaches hierarchical display in figures 3, 4,5, and the display is independent of an amount of network contributing to indicia of network performance as seen in table of fig. 5 where there are number of network elements in different location.

As per claim 16, Foulger teaches the computer program product of claim 15, wherein the second data are indicative of network issues perceived to affect network performance more than network issues absent from the display (Fig. 5)(Paragraph 66)(Paragraph 68).

As per claim 17, Foulger teaches the computer program product of claim 1 wherein the displayed data associated with levels provide indicia of absolute performance of portions of the network associated with the respective levels (Fig. 5 element "(Paragraph 71).

As per claim 18, Foulger teaches the computer program product of claim 1 wherein the displayed data associated with levels provide indicia of relative performance of portions of the network associated with the respective levels (Fig. 5 element "average latency")(Paragraph 71).

As per claim 19, Foulger teaches the computer program product of claim 18 wherein the displayed data associated with levels provide indicia of absolute performance of portions of the network associated with the respective levels (Fig. 5 element "average latency")(Paragraph 71).

As per claim 20, Foulger teaches the computer program product of claim 19, further comprising instructions for providing a display of the data associated with levels over time (Fig. 7,8,10).

The figure shows graph of site weather (first level), latency (second level), volume (third level) over time.

As per claim 22, Foulger teaches the computer program product of claim 1 wherein the first and second data provide indicia of grades of degradation of performance of at least portions of the network as a function of time (Paragraph 68)(Fig. 7,8,10).

As per claims 33-35,37-39 respectively, teaches same limitations as claims 1-3, 5-7 respectively, therefore rejected under same basis.

As per claims 47-52,54 respectively, teaches same limitations as claims 15-20,22 respectively, therefore rejected under same basis.

4. Claims 9-14,41-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Foulger et al. U.S. Patent Publication # 2003/0018769 (hereinafter Foulger) in view of Feinberg et al. U.S. Patent # 6,798,745 (hereinafter Feinberg).

As per claim 9, Foulger teaches the computer program product of claim 1 but fails to teach wherein the collected data are metrics of network performance derived from raw data indicative of network activity. Feinberg teaches the collected data are metrics of network performance derived from raw data indicative of network activity (column 5 lines 30-45).

Feinberg teaches collected data are of QoS events (metric) of the network performance indicating types of packet loss, packets received out of sequence etc. which are derived from shaping the raw data.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to implement Feinberg's teaching in Foulger's teaching to come up with collected data are metric of network performance derived from the raw data. The motivation for doing so would have been to find out how the network is performing indicating packets loss, jitter, excessive network delay and how much information transfer rate is.

As per claim 10, Foulger and Feinberg teaches the computer program product of claim 9 but Foulger fails to teach further comprising instructions for causing the computer to derive the metrics from the raw data. Feinberg teaches instructions for causing the computer to derive the metrics from the raw data (column 5 lines 40-45) It would have been obvious to one of ordinary skill in the at the time of applicant's invention to implement Feinberg's teaching in Foulger's teaching to come up with deriving the metric from the raw data. The motivation for doing so would have been to find out how the network is performing indicating packets loss, jitter, excessive network delay and how much information transfer rate is.

As per claim 11, Foulger teaches a computer program product comprising computer-executable instructions for causing a computer to:

-obtain performance data related to performance of a broadband network (Paragraph 22)(Paragraph 40) and

-provide hierarchical display of network performance (Fig. 3 element "network summary") the hierarchical display including a first level with first data indicative of network operation (Fig. 3 element "network summary")(Paragraph 62)(Paragraph 63) and a second level with second data indicative of a plurality of issues (Fig. 3 element 120 "route performance") comprising the first level of network performance (Paragraph 65);

-wherein the second level includes multiple issues that contain a third level with third data indicative of network issues (Fig. 3 element "Link performance") comprising at least some of the secondary level issues (Paragraph 65)(Paragraph 66).

Foulger fails to teach obtain first metrics of performance of at least a portion of the network and combine a plurality of first metrics into a second metric of network performance indicative of a higher-level of network performance than indicated by the first metrics.

Feinberg teaches the instructions for causing the computer to derive the metrics include instructions for causing the computer to:

-obtain first metrics of performance of at least a portion of the network (column 5 lines 31-45); and

Feinberg teaches obtaining QoS parameter data or also known as QoS events (first metrics).

combine a plurality of first metrics into a second metric of network performance indicative of a higher-level of network performance than indicated by the first metrics (column 5 lines 31-60)

Feinberg teaches combining QoS events into QoS parameter value (second metric of network performance of higher-level network performance) to indicate which QoS events have been lost.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to implement Feinberg's teaching in Foulger's teaching to come up with obtain first metric of performance and combine first metrics into second metrics indicative of higher-level of network performance in the broadband network. The motivation for doing so would have been to find out metric of the network performance and this information can be used to find out and to compare the network metric with other part of the network and find out which part of the network is not performing well and which may be bringing the network performance down.

As per claim 12, Foulger and Feinberg teaches the computer program product of claim 11 but Feinberg further teaches wherein the instructions for causing the computer to combine first metrics weight different metrics differently dependent upon perceived relevance of an issue associated with the metric to network performance (column 5 lines 40-49)

As per claim 13, Foulger teaches a computer program product comprising computer-executable instructions for causing a computer to:

-obtain performance data related to performance of a broadband network (Paragraph 22)(Paragraph 40) and

-provide hierarchical display of network performance (Fig. 3 element "network summary") the hierarchical display including a first level with first data indicative of

network operation (Fig. 3 element "network summary")(Paragraph 62)(Paragraph 63) and a second level with second data indicative of a plurality of issues (Fig. 3 element 120 "route performance") comprising the first level of network performance (Paragraph 65);

-wherein the second level includes multiple issues that contain a third level with third data indicative of network issues (Fig. 3 element "Link performance") comprising at least some of the secondary level issues (Paragraph 65)(Paragraph 66).

Foulger fails to teach the instructions for causing the computer to derive the metrics include instructions for causing the computer to perform comparisons of first metrics derived from the raw data with thresholds and to provide second metrics based upon the comparisons.

Feinberg further teaches wherein the instructions for causing the computer to derive the metrics include instructions for causing the computer to perform comparisons of first metrics derived from the raw data with thresholds and to provide second metrics based upon the comparisons (column 5 lines 40-60)

The reference teaches shaping the raw data which comprises QoS events (first metric derived from raw data w/ thresholds) to obtain QoS parameter value (second metric) based on comparisons.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention was made to implement Feinberg's teaching in Foulger's teaching to come up with deriving metrics and providing second metrics from first metrics based

on the comparison. The motivation for doing so would be so that the second metrics would represent if the performance of the network has degraded over time.

As per claim 14, Foulger and Feinberg teaches the computer program product of claim 13, but Feinberg further teaches wherein the second metrics provide indicia of grades of degraded performance of portions of the network as a function of time (column 5 lines 45-49)(column 5 lines 49-64).

The reference teaches the QoS parameter value (second metric) is produced by summing the total number of lost packets (degraded performance of the network) in a one second period (as a function of time).

As per claims 41-42, they teach same limitation as claims 9-10, therefore rejected under same basis.

As per claim 43, Foulger and Feinberg teaches the method of claim 42, but Feinberg further teaches wherein of deriving the metrics comprises obtaining first metrics of performance of at least a portion of the network (column 5 lines 31-45); and

Feinberg teaches obtaining QoS parameter data or also known as QoS events (first metrics).

-combining a plurality of first metrics into a second metric of network performance indicative of a higher-level of network performance than indicated by the first metrics (column 5 lines 31-60)

Feinberg teaches combining QoS events into QoS parameter value (second metric of network performance of higher-level network performance) to indicate which QoS events have been lost.

As per claim 44, Foulger teaches a method comprising:

-obtaining performance data related to performance of a broadband network (Paragraph 22)(Paragraph 40) and

-providing hierarchical display of network performance (Fig. 3 element "network summary") the hierarchical display including a first level with first data indicative of network operation (Fig. 3 element "network summary")(Paragraph 62)(Paragraph 63) and a second level with second data indicative of a plurality of issues (Fig. 3 element 120 "route performance") comprising the first level of network performance (Paragraph 65);

-wherein the second level includes multiple issues that contain a third level with third data indicative of network issues (Fig. 3 element "Link performance") comprising at least some of the secondary level issues (Paragraph 65)(Paragraph 66).

Foulger fails to teach obtaining first metrics of performance of at least a portion of the network and combining a plurality of first metrics into a second metric of network performance indicative of a higher-level of network performance than indicated by the first metrics and wherein said step of combining the first metrics comprises weighting different metrics differently depending upon perceived relevance of an issue associated with the metric to network performance.

Feinberg further teaches wherein of deriving the metrics comprises obtaining first metrics of performance of at least a portion of the network (column 5 lines 31-45); and

Feinberg teaches obtaining QoS parameter data or also known as QoS events (first metrics).

-combining a plurality of first metrics into a second metric of network performance indicative of a higher-level of network performance than indicated by the first metrics (column 5 lines 31-60)

Feinberg teaches combining QoS events into QoS parameter value (second metric of network performance of higher-level network performance) to indicate which QoS events have been lost.

-combining first metrics weight different metrics differently dependent upon perceived relevance of an issue associated with the metric to network performance (column 5 lines 40-49).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to implement Feinberg's teaching in Foulger's teaching to come up with obtain first metric of performance and combine first metrics into second metrics indicative of higher-level of network performance in the broadband network and weighting different metrics differently depending upon perceived relevance. The motivation for doing so would have been to find out metric of the network performance and this information can be used to find out and to compare the network metric with other part of the network and find out which part of the network is not performing well and which may be bringing the network performance down.

As per claims 45-46, they teach same limitation as claims 13-14, therefore rejected under same basis.

5. Claims 23,55 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Foulger et al. U.S. Patent Publication # 2003/0018769 (hereinafter Foulger) in view of Vogel al. U.S. Patent # 6,742,187 (hereinafter Vogel)

As per claim 23, Foulger teaches the system of claim 22, but fails to teach the network is a DOCSIS network including cable modems and cable modem termination systems, and the first and second data indicate number of cable modem hours at the grades of degradation. Vogel teaches network is a DOCSIS network including cable modems and cable modem termination systems and data indicative of number of cable hours at the grades of degradation (column 13 lines 9-24). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to implement Foulger's invention in Vogel's invention to come up with DOCSIS network with cable modems and cable modem termination system and data indicative of number of cable hours at the grades of degradation. The motivation for doing so would have been to monitor the levels of performance of the network.

As per claim 55, it teaches same limitations as claim 23, therefore rejected under same basis.

Allowable Subject Matter

6. Claims 67-85 are allowed.

Response to Arguments

7. Applicant's arguments filed 2/21/2006 have been fully considered but they are not persuasive.

As per remarks applicant stated the following remarks.

A). Applicant states Foulger does not describe or suggest indicating a likely network problem and suggesting action for addressing the likely network problem.

B). Applicant states Feinberg does not describe or suggest indicating a likely network problem and suggesting action for addressing the likely network problem.

C). Applicant states Foulger does not describe or suggest sorting performance issue details according to at least one selected criterion and also locations of network elements or metrics associated with the network elements by one or more selected criterion.

D). Applicant states Foulger does not describe or suggest sorting performance issues details of network elements or metrics associated with network elements based on selected criterion.

E). Applicant states Feinberg does not anticipate the specific processing of weighting different metrics differently dependent upon perceived relevance of an issue associated with the metric to network performance.

F). Applicant states Feinberg does not describe or suggest performing comparisons of first metrics derived from the raw data with thresholds and providing second metrics based upon the comparisons.

G). Applicant states Feinberg does not describe or suggest providing indicia of grades of degraded performance or portions of the network as a function of time.

H). Applicant states combining Foulger, Feinberg, and Dziekan would not result in combination to include data indicate numbers of cable-modem hours at grades of performance degradation.

As per remark A, Examiner respectfully disagrees with the applicant because in Paragraph 97, Foulger teaches having loss of client connection (indication of likely network problem) even though the data has not been lost and storing the traffic data from last ten minutes and continuously refreshed after the loss of client connection (suggested action for addressing the network problem). Therefore, Foulger does teach indicating a likely network problem and suggesting action for addressing the likely network problem (Paragraph 97)(Paragraph 98).

As per mark B, Examiner never stated/described Feinberg teaches indicating a likely network problem and suggesting action for addressing the likely network problem.

As per remark C, Examiner respectfully disagrees with the applicant because in Paragraph 77 and Paragraph 78 and also Fig. 11, it shows latency distribution view is selected which is (selected criterion) and it shows sorting the performance in the histogram from High to low (sorting performance issue details) and in Fig. 9 it shows sorting the routers domains worldwide (locations of network elements or metrics associated with the network elements) based on volume distribution over time(one or more criterion). Therefore, Foulger does teach sorting performance issue details according to at least one selected criterion and locations of network elements or metrics associated with the network elements.

As per remark D, Examiner respectfully disagrees with the applicant because in Paragraph 77 and Paragraph 78 and also Fig. 11, it shows latency distribution is selected (selected criterion) and it shows sorting the performance in the histogram from High to low (sorting performance issue details) of the routers (network elements).

Therefore Foulger does teach sorting performance issue details of network elements or metrics associated with network elements based on selected criterion.

As per remark E, Examiner respectfully disagrees with the applicant because in column 5 lines 40-60, Feinberg teaches the number of combination and permutations for processing or shaping the data (specific processing of weighting different metrics) which comprises QOS events to obtain parameter value and the QoS event is a packet loss, QoS parameter value is produced by summing the total number of packet lost in one second period (differently dependent upon perceived relevance of an issue). Examiner would like to point the claim language states weighting different metrics differently dependent upon perceived relevance, which means the metrics can be viewed differently based on perceived relevance of an issue . Therefore Feinberg states for processing or shaping the data (specific processing of weighting different metrics) which comprises QOS events to obtain parameter value and the QoS event is a packet loss, QoS parameter value is produced by summing the total number of packet lost in one second period (differently dependent upon perceived relevance of an issue). Therefore Feinberg teaches the claimed limitations.

As per remark F, Examiner respectfully disagrees with the applicant because in column 5 lines 40-60, Feinberg teaches performing comparisons of first metrics derived from the raw data with thresholds and providing second metrics based upon the comparisons. Feinberg teaches shaping the raw data which comprises QoS events which is a packet loss (first metric derived from raw data w/ thresholds) to obtain QoS parameter value (second metric) based on comparisons. The QoS parameter value is

produced by summing the total number of lost packets in one-second period and comparing it with the QoS acceptance value to produce the QoS parameter value (which is second metric). Therefore Feinberg does teach comparisons of first metrics derived from the raw data with thresholds and providing second metrics based upon the comparisons.

As per remark G, Examiner respectfully disagrees with the applicant because in column 5 lines 45-49, column 6 lines 37-56, Feinberg teaches detected packet loss as function of time "L(T)" and it states as L(T) becomes increasingly greater in value QoS begins to degrade at the gateway terminates call connections (degraded performance or portions of network). Feinberg further teaches that number of terminations of call connections is determined according with severity of packet loss over time "L(T)". Therefore, Feinberg does teach claimed limitations providing indicia of grades of degraded performance or portions of the network as a function of time.

As per remark H, it is deemed moot in view of new grounds of rejection.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A). " Method and system for monitoring and management of performance of real-time networks" by Grabelsky et al. U.S. Patent 6,678,250

B). "Network traffic generation and monitoring systems and method for their use in testing frameworks for determining suitability of network for target applications" by Bearden et al. U.S. Patent Publication # 2003/0086425

C). "Quality of service management for voice over packet networks" by Feinberg et al. U.S. Patent # 6,798,745

D). "Platform independent computer management client" by Kekic et al. U.S. Patent # 5,999,179

E). "Arrangement for discovering the topology of an HFC access network" by Dziekan et al. U.S. Patent # 6,704,288

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dhairya A. Patel whose telephone number is 571-272-5809. The examiner can normally be reached on Monday-Friday 7:00AM-4: 30PM, first Fridays OFF.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 571-272-3939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DAP

Khanh Dinh
Primary Examiner